Understanding Alberta's Labour Force:

Looking to the Future

A Discussion Document

September 2005

Alberta

Purpose

This discussion paper is part of the Government of Alberta's work with its partners in responding to the issue of labour and skill shortages. It supports the development of two new documents:

- a labour force development strategy for the Province of Alberta, and
- a skill shortages action plan to guide Alberta Human Resources and Employment's efforts over the next three to five years to address skill shortages and build labour force capacity.

The labour force development strategy and the skill shortages action plan are important elements of the work needed to reach the government's 20-year vision of a vibrant and prosperous province.

The paper focuses on background information with respect to labour force development issues in Alberta. The paper alludes in places to the strategic implications of the information presented here. These will be worked out in more detail in later documents.

Acknowledgement

Nichols Applied Management prepared this document for Alberta Human Resources and Employment (AHRE), following the direction of working groups from the cross-ministry Labour Force Planning Committee and the AHRE Skill Shortages Advisory Committee. Special thanks go to members of these groups for their time and commitment to this project.

106-02195/

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Executive Summary

The Alberta Government's 20-year vision is one of a "vibrant and prosperous province." *Securing Tomorrow's Prosperity* – the province's economic development strategy – ties continued prosperity to developing a more knowledge-based and value-added economy. The Government of Alberta has developed other initiatives and strategies to make its vision a reality.

Many of these initiatives and strategies touch upon labour market issues. Alberta Human Resources and Employment (AHRE) is now preparing a labour force development strategy to provide an explicit focus on labour market issues. In the broadest sense, the government's labour force development strategy aims to develop the labour force needed for the myriad of initiatives and strategies supporting progress towards the government's vision.

Purpose

The purpose of this document is to provide the rationale for the focus of the government's labour force development strategy and AHRE's action plan. The intent is also to spur discussion amongst stakeholders regarding the direction government is taking in addressing labour force development issues.

The document provides a concise overview of labour market issues in Alberta and, where appropriate, places them in a national or global context. It also addresses selected groups in the labour market and discusses the contribution they can make to meet the challenges facing the labour market.

Key Findings

The first key finding is **the labour market is entering a period in which shortages in selected occupations are expected.**

The fundamental reason for this is **a combination of slow labour force expansion and high economic growth.** The slow labour force growth is a near certainty, resulting from strong demographic trends. The high economic growth is less certain given Alberta's open economy and vulnerability to outside shocks. However, the current and expected high commodity prices and the unprecedented investment plans of the oil sands industry, among others, suggest continued robust growth.

Another reason is **imbalances in the labour market.** Varying growth rates among sectors and regions create labour supply shortages in some occupations and regions. Localized shortages can occur even if an industry or occupation has more than three per cent unemployment, which is often used as the benchmark for a labour shortage.

The second key finding is **the face of work is changing** and the labour force will need to adapt to these changes. Alberta, similar to other developed economies, is moving towards a more knowledge-based and value-added economy. The world economic system is being reconfigured by increased globalization and the increased importance of emerging economies, especially China. Indeed, the government's economic development strategy reflects and addresses this broad economic trend.

Labour Force Growth

Although young, relative to the rest of Canada and many other developed countries, **Alberta's work force is aging.** This reflects mainly the demographic importance of the baby boomers. Already, the cohorts following the baby boomers are smaller, contributing to a slowdown in the labour force growth. As the boomers begin to retire, growth will slow down further and the labour force may even contract marginally early in the next decade.

Immigration and in-migration from other parts of Canada counteract the slow growth or marginal decline of the labour force. However, Alberta's success in attracting skilled workers from other parts of Canada is varied and related to how well other provinces are doing economically. And, historically, Alberta in general and – more specifically Edmonton and Calgary – have trailed Toronto, Montreal, and Vancouver in attracting immigrants. There is strong competition for immigrants with the skills needed in advanced economies. It follows that efforts to attract workers from elsewhere need to continue and even expand, but **immigration and in-migration, while important, will likely contribute only marginally to labour force size.**

Another potential source of labour force growth is groups of workers who are currently under-represented in the labour force. Aboriginal people, persons with disabilities, and immigrants face barriers limiting their full engagement in the labour market. However, these groups are relatively small and their increased involvement in the labour force will require a sustained developmental effort. It follows that while these groups present opportunities for increased involvement in the labour force, the **under-represented groups will not negate the slow labour force growth.**

Labour Productivity

The main implication of the slow labour market growth relative to anticipated economic growth is an increased emphasis on labour productivity. Efforts that expand the labour force are necessary but will have limited impact on its overall size. **A key answer to ensuring continued prosperity lies in raising the productivity of all current and potential future participants in the labour force.**

The changing face of work reinforces the emphasis on labour productivity. All work is increasingly mediated by technology. High labour productivity is tied to a well-educated work force; it is a pre-condition for the value-added and knowledge-based economy envisioned by government.

1. Introduction

1.1 The Vision

The vision of the Government of Alberta is:

A vibrant and prosperous province where Albertans enjoy a superior quality of life and are confident about the future for themselves and their children.[1]

While Alberta – and most Albertans – are enjoying one of the most prosperous and fastest growing economies in the world, it is recognized that we must not be complacent about our potential to sustain this prosperity in the years ahead.

To continue to prosper in an increasingly competitive global and knowledge-based economy, Alberta is pursuing an economic strategy to develop a more broadly based economy, in which knowledge and innovation are applied to add value in our traditional commodity sectors.

The Government of Alberta has put in place a number of strategies and cross-ministry initiatives to further its vision. Key among them are *Securing Tomorrow's Prosperity*, a strategic policy framework providing the economic underpinnings of the government's vision; *A Place to Grow*, the province's rural development strategy; *Growing our Future*, an integrated life sciences strategy for the province; *Strengthening Relationships*, addressing the relationships between the Province and Alberta's Aboriginal people; and the *Alberta Youth Employment Strategy*. There are additional initiatives that support Alberta's vision.

1.2 Labour Force Development

Many of these initiatives and strategies touch upon labour market issues and recognize labour force development as a key element. Alberta Human Resources and Employment (AHRE) is now preparing a labour force development strategy to provide an explicit focus on labour market issues. In the broadest sense, the government's labour force development strategy aims to develop the labour force needed for the myriad of initiatives and projects that will ensure continued prosperity and quality of life in this province.

1.3 The Need for a Labour Force Development Strategy

The unemployment rate, considered a key indicator of skill shortages, was estimated for Alberta at 4.6 per cent in 2004. This was the lowest in Canada and indicates the labour market is tight.[2]

Unemployment rates vary among regions, although all regions are facing tight labour markets. In mid-2005, the (unadjusted) unemployment rate for the province is estimated at 3.4 per cent, ranging from 3.0 per cent in Wood Buffalo/Cold Lake to 4.7 per cent in the Edmonton region.

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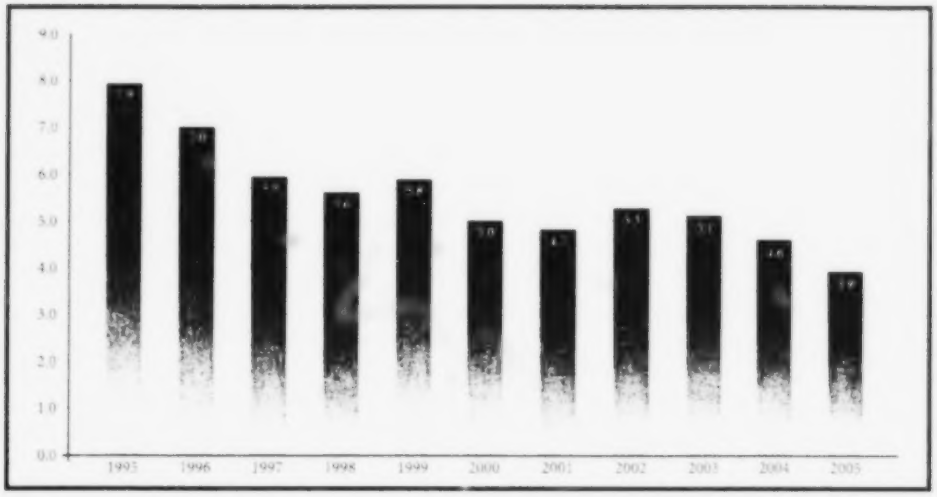
1 Government of Alberta, Strategic Business Plan, April 2004, page 1.

2 An unemployment rate of five per cent is considered healthy for an economy. Otherwise the job market is too tight and labour shortages can arise. A labour shortage (in a sector or occupation) is generally indicated when the unemployment rate is lower than three per cent.



Source:
Statistics Canada Labour Force Survey
Note:
Percentages shown are annual averages; monthly or seasonal unemployment rates differ from the annual averages. 2005 is Year to Date Average.

Figure 1
Alberta's Annual Average Unemployment Rate

Unemployment rates also vary among labour force groups. For example, the unemployment rate in Alberta is estimated to be 3.3 per cent for older workers, 8.5 per cent for youth (age 15-24), 9.2 per cent for Aboriginal people and 24.3 per cent for persons with disabilities.[3]

Finally, unemployment rates also vary among occupations. In the 12 months ending in June 2005, 28 of 53 occupational groups tracked by Alberta Human Resources and Employment showed an unemployment rate of less then three per cent,[4] significantly below the five per cent level that is often used to indicate a balanced labour market.

The fundamental importance of productivity to living standards should be clear. Indeed, the relationship between the two is one of the few upon which all economists agree! Over the long term, improvements in living standards and productivity growth are inextricably linked.

Tim O'Neil, Chief Economist, Bank of Montreal

Industry and government reports have increasingly raised concerns about the existing tight labour market in Alberta and emerging skill shortages in some regions, industries and occupations. As examples, the *Viewpoints 2002 Leadership Survey*[5] conducted by the Canadian Labour and Business Centre views the shortage of skilled labour as a serious problem. And, Canada West Foundation's *Toward A Bright Future*[6] indicates 73 of 76 major industry associations in Western Canada expect moderate to severe worker shortages within the next five years.

It is probably more accurate to speak of labour market imbalances rather than shortages, considering shortages occur:

- in some occupations (e.g., Health occupations; Trades, Transport, Equipment Operators and related occupations; and Management occupations) and not in others (e.g., occupations in Art, Culture, Recreation and Sport; some Sales and Service occupations); and
- more in particular regions (e.g., Wood Buffalo/Cold Lake, Calgary regions) and less in others (e.g., Edmonton region).

Shortages in one sector do influence other sectors as workers move to obtain employment. Similarly, worker mobility will create a domino effect among regions. For example, the availability of well-paid construction and oil sands industry jobs in Fort McMurray affect the availability of workers in forestry, agriculture and other sectors across the province.

These current labour market imbalances underline the need to continue a focus on labour force development to ensure both current and future economic opportunities are realized. In very general terms, **the road towards the vision of a vibrant and prosperous province is one not only of expanding the labour force but also of increasing labour productivity**. This means not only more workers, but better educated workers. Economic growth will require investments in labour force development as well as capital goods.[7]

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3 Statistics Canada, Labour Force Survey (2004 Historical)
Statistics Canada Census 2001
Unemployment rates are for 2004, except for the rate for people with disabilities, which is for 2001.

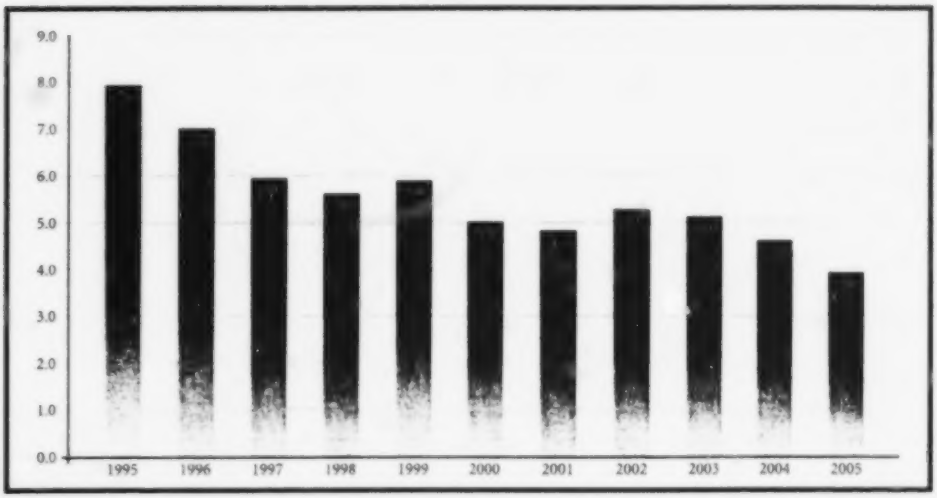
4 Human Resources and Employment, Alberta Unemployment Rate by Occupational Group July 2004 to June 2005, August 2005.

5 Canadian Labour and Business Centre. Viewpoints 2002: Skills and Skills Shortages, August 2002, p. 7.

6 Canada West Foundation. Towards a Bright Future: Recommendations for Addressing Skill Shortages in Western Canada, Jan. 2005, p. 3.

7 The term "human capital" is used at times in the literature. It refers to the skills, education, health and training of individuals. Education, skills and other knowledge have become crucial determinants not only of an individual's ability to survive and progress in a modern economy, but also of a country's productivity (Gary Becker, Human Capital and Poverty, March 1996). This paper uses the term "labour force development" throughout. It implies a similar inclusion of skills, education, and training as captured in the concept of "human capital."

8 Bank of Montreal, Economic Analysis, May 1999, p. 7.



Source:
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5 Canadian Labour and Business Centre. Viewpoints 2002: Skills and Skills Shortages, August 2002, p. 7.

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8 Bank of Montreal, Economic Analysis, May 1999, p. 7.

2. Key Labour Force Development Issues

This section provides a high level overview of the key labour force development issues in Alberta. Many of these issues are evident in other developed economies, whereas some are unique to Alberta.

2.1 Labour Force Demand

2.1.1 The Changing Face of Work

Changing Economy

The Alberta government's vision for the province (i.e., a vibrant and prosperous province where Albertans enjoy a superior quality of life and are confident about the future for themselves and their children) is being pursued through four key strategies: *Unleashing Innovation, Leading in Learning and Skilled Workforce, Competing in a Global Market Place,* and *Making Alberta the Best Place to Live, Work and Visit.*

This vision for Alberta and the strategies that support it, such as Alberta's rural development strategy, imply the work Albertans will be doing in the future will build on, but be substantially different from, the work being done now. Work in the future will:

- focus on value-added possibilities;
- change continuously as organizations implement continuous improvement into the way they work; and
- include technological innovation and commercialization, thereby extending what we are doing now into new areas.

The Government of Alberta's vision recognizes and is in line with overarching trends in the world economy that see most advanced economies:

- moving from primary resource and manufacturing economies to knowledge-based economies;
- focusing on increasing labour productivity through education to counter:
  - competition from lower-cost countries in Asia and Latin America; and
  - slow growth or even decline in their labour forces.

Changing Education Requirements

Knowledge and skill requirements for existing jobs are changing as well. The majority of new jobs require higher skill levels and by 2013, 64 per cent of all new jobs created in Canada will require some level of advanced education.[9] A further shift to a value-added industry and a knowledge-based economy will increase the importance of post-secondary education.

Changing Demographics

Demographic changes will also contribute to the changing face of work. As the province's population ages, sectors servicing this demographically dominant group will see increased demand, and perhaps labour shortages in specific occupations.

2.1.2 Economic Growth

The current discussion about the development of Alberta's labour force is a discussion about growth, labour shortages and what to do about them, and how to position the province for continued growth. Alberta is in the fortunate position of being able to focus on labour force growth issues as compared to labour force issues related to economic disruption or shrinking opportunities for work.

Alberta has a very open economy and, hence, its economic growth and labour force development needs must be seen in a broader economic context. And that broader – continental and worldwide – context is dominated by the emergence of China[10] and India as important forces in the world economy. The developing economies are fast becoming the manufacturing centres for many goods and India has become an important source of information technology services. Their growth is also making emerging economies into important markets of goods and services produced in developed countries.

The importance of energy and minerals exports as drivers of Alberta's economic growth has made the province a beneficiary of the high growth in China and other developing economies. The province is among the lead provinces in economic growth in Canada, and Canada's economy is growing faster than most developed economies in the world.

> The supply-side stimulus China could give to developed economies' will take several forms:
>
> - **Greater specialization.** Initially, China is likely to specialize mainly in relatively low-skilled labour-intensive manufacturing, whereas developed economies will concentrate on activities needing higher skills.
> - **Improved terms of trade.** The prices of products that China makes will fall; the prices of goods that it needs to import will rise. There will be a rise in prices of capital and skill-intensive goods and services that China needs to import.[11]

9 Alberta Advanced Education, Profile of Alberta's Advanced Education System, 2005, p. 2.

10 "Survey: The World Economy," The Economist, (Sept. 30, 2004), p. 1.

11 "Survey: The World Economy," The Economist, (September 30, 2004), p. 2.

Table 1
GDP Growth

	2004	2005 Forecast	2006 Forecast
Alberta	3.7%	3.7%	3.3%
Canada	2.9%	2.8%	3.1%
US	4.2%	3.6%	3.3%
Euro area	2.1%	1.2%	2.0%

Sources:

Statistics Canada. Real gross domestic product, expenditure-based, by provinces and territories, April 27, 2005 (http://www40.statcan.ca/l01/cst01/econ50.htm)

Statistics Canada. Real gross domestic product, expenditure-based, August 31, 2005 (http://www40.statcan.ca/l01/cst01/econ05.htm)

Bureau of Economic Analysis, United States Department of Commerce. Gross Domestic Product Percentage change from preceding period, August 31, 2005 (http://www.bea.doc.gov/bea/dn/gdpchg.xls)

European Central Bank. Statistics Pocket Book, September 2005 (http://www.ecb.int/pub/pdf/stapobo/spb200509en.pdf)

Alberta Finance. Budget 2005, Economic Outlook 2005-08, April 13, 2005 (http://www.finance.gov.ab.ca/publications/budget/budget2005/eco.html#1)

Organization for Economic Co-operation and Development. OECD Economic Outlook No 77 - Statistical Annex (http://www.oecd.org/dataoecd/6/27/2483806.xls)

However, there have been negative impacts on Alberta's economy as well. As examples, the high price of steel has impacted large projects, and high energy prices have been hard on the manufacturing sector in the province. Outsourcing of jobs, which can be a negative aspect of "globalization", has not yet been a force in the Alberta economy. It may become more of a threat, however, as the province moves to a more knowledge-based economy.

2.2 Labour Force Supply

Population Growth

Population growth is one driver of overall economic growth. Alberta's population growth is slowing down. Even with in-migration from other provinces and immigration from abroad, Alberta's population is growing at a rate below that of the economy.

Table 2
Annual Population Growth Rate

	Forecast (2000-2050)
Alberta*	1.63%
Canada	0.48%
US	0.72%
Europe	-0.28%

Sources:

Alberta Health. Population Projections for Alberta and its Health Regions 2004-2033, 2005.

Statistics Canada. Population by Year, 2005. (http://www40.statcan.ca/l01/cst01/demo02.htm0).

United Nations. The World Population in 2300 (medium scenario), 2003.

* 2005 to 2030 for Alberta

Aging Workforce

The labour force participation of the baby boomer generation deserves special mention. Baby boomers – people born between 1946 and 1965 – are now in their prime working years and are starting to retire. The next cohorts are generally smaller, thus yielding fewer workers. Alberta's population is relatively young in comparison to the rest of the country. However, between 2005 and 2010:

- the number of Albertans aged 45 and over will grow more than twice as fast as those under 45 years of age;[12] and
- the fastest growth will occur in the 55 to 64 age group.[13]

The age of workforces varies by industry and depends in part on the performance of that industry or when it went through a period of growth. For example:

- few people go into primary agriculture resulting in a high average age of farmers; and

12 Between 2005-2010, Albertans aged 45 and over will increase by 164,600 compared to only 82,500 for those under age 45. Human Resources and Employment, Alberta Regional Population Outlook, 2005-2010, Aug. 2005, p. 4.

13 The 55 to 64 -age group will grow by 78,300 between 2005-2010. Human Resources and Employment, Alberta Regional Population Outlook, 2005-2010, Aug. 2005, p. 4.

- established oil sands producers are facing a relatively high attrition of production workers as the people hired in the late 1960s and mid-1970s reach the end of their careers.

Over 400,000 new jobs are forecast to be created in Alberta between 2004 and 2014. At the same time, only 300,000 new workers are expected to enter the labour market.[14] For advanced economies such as Alberta's, the key to continued prosperity lies increasingly not in efforts to increase the labour force but in increasing labour productivity (i.e., increased output per hour worked).

Provincial Migration

In 2004, Alberta has attracted some 10,900 more people from other provinces and territories than it lost to them. Almost three-quarters of these in-migrants – which include children and seniors, in addition to active labour force participants – settled in the Calgary and Edmonton regions.

Inter-provincial migration has slowed down in recent years, suggesting that Alberta's attractiveness to people from other provinces is a relative concept. For example, in the 1996 to 2001 period, British Columbia was a net exporter of people and the origin of the largest contingent of migrants into Alberta. The recent more robust performance of BC's economy has reverted BC back to its traditional position as a net importer of inter-provincial migrants, although still a smaller one than Alberta. Similar dynamics can be seen in the in-migration from Ontario and the Atlantic provinces.

14 Human Resources and Employment, Preliminary Results of Alberta's Occupational Demand and Supply Outlook, 2004 – 2014, Nov. 2004.

15 Human Resources and Employment, Immigration Statistics, 2005. http://www.gov.ab.ca/hre

Table 3
Inter-Provincial Migration to Alberta

	1996-2001		2004*
	Annual Average 1996-2001	Percentage to Edmonton and Calgary	
Alberta	23,900	72%	10,900

Sources:

Statistics Canada. Alberta: Booming economy, booming migration, 2002.

Statistics Canada. Components of Population Growth by Province and Territory, 2005.

http://www40.statcan.ca/l01/cst01/demo33c.htm?sdi=alberta%20interprovincial%20migration

* July 1, 2003 to June 30, 2004

Immigration

Canada and Alberta are net recipients of new immigrants from other countries. In the 1996 to 2001 period, the annual influx of new immigrants to Alberta was smaller than the net inter-provincial migration. In 2004, however, the estimated number of net immigrants has been marginally larger than the net new migrants from other parts of Canada.

Table 4
Net In-Migration to Alberta

	Annual Average 1996-2001	2004
Inter-Provincial Migration	23,900	10,900
Immigration	15,900	16,500

Sources:

Statistics Canada. Alberta: Booming economy, booming migration, 2002.

Statistics Canada. Components of Population Growth by Province and Territory, 2005.

http://www40.statcan.ca/l01/cst01/demo33c.htm?sdi=alberta%20interprovincial%20migration

Human Resources and Employment. Immigration Statistics, 2005.

* Inter-provincial migration is for July 1, 2003 to June 30, 2004.

Alberta is not a preferred destination for immigrants. On an annual basis, Alberta receives approximately seven per cent of all immigrants to Canada, while it constitutes about 10 per cent of the Canadian population and has consistently been among the strongest provincial economies in the country. Immigrants overwhelmingly settle in big cities, with almost three-quarters settling in Toronto, Montreal and Vancouver. Edmonton and Calgary capture almost 90 per cent of all new immigrants to Alberta.[15]

2.2.2 Educational Attainment

The changing educational requirements – discussed as part of the changing face of work – are mirrored in the increasing educational levels of the Alberta labour force. In the 1994 to 2004 period, for example:

- the percentage of the labour force without high school graduation declined from 21 per cent to 16 per cent,[16] and
- the percentage of the labour force with some post-secondary education increased from 56 per cent to 61 per cent.[17]

The overall level of educational attainment of the labour force is roughly in balance with the number of jobs by level of qualifications, although there may be issues with matching jobs and people.

2.2.3 Under-Represented Groups

Aboriginal People

There are about 200,000 Albertans who identify themselves as Aboriginal.[18] As a group, Aboriginal people are younger and have less of an involvement in the labour force than the general population. As such, Aboriginal people constitute a potential source of new labour supply for Alberta. However, increasing their participation in the labour force poses challenges as the general education levels among Aboriginal Albertans is lower than among non-Aboriginal people.

Aboriginal people increasingly live in urban areas. Almost half of all Albertans who identify themselves as Aboriginal live in the main metropolitan areas in the province – Calgary and Edmonton – and the smaller cities, such as Fort McMurray and Grande Prairie. As with non-Aboriginal people, employment, educational opportunities, and access to services are among the reasons for moving to the larger cities. Aboriginal people living in major cities are doing better now than they were two decades ago. However, they continue to trail non-Aboriginal people in key socio-economic variables.[19]

Table 5
Aboriginal People in Alberta (2001)

	Aboriginal People	Non-Aboriginal People
Percentage of population 19 or younger	44.3%	27.5%
Labour Force Participation		
Male	74.4%	79.9%
Female	62.4%	66.8%
Unemployment Rate		
Male	13.1%	4.7%
Female	12.2%	4.8%

Sources:

Alberta Aboriginal Affairs and Northern Development. Alberta's Aboriginal Population – Socio-economic Characteristics 2001, 2003.

Statistics Canada. Federal Census, 2001.

16 Statistics Canada

17 Statistics Canada

18 Alberta Aboriginal Affairs and Northern Development. Alberta's Aboriginal Population – Selected Socio-Demographic Characteristics 2001, 2003.

19 Statistics Canada, Aboriginal People Living in Metropolitan Areas 2001; 2005, p. 4.

Persons with Disabilities

Alberta's population includes more than 350,000 individuals who report having one or more disabilities – roughly 12.5 per cent of the provincial population. Approximately five per cent of the overall population 15 years and older (or just over 36 per cent of all individuals in that age group reporting disabilities) has severe or very severe disabilities.[20]

Although many Albertans with disabilities are fully employed and have adequate incomes, many also face challenges in the labour market, including lack of acceptance in the work place and lack of willingness by employers to accommodate work and the work place to specific disabilities. Evidence of these challenges includes:

- an employment rate and participation rate for persons with disabilities that is lower than the rate for those without disabilities, and
- an unemployment rate roughly five times higher than the provincial average.

Table 6
Persons with Disabilities in Alberta (2001)

	Persons with Disabilities	Persons without Disabilities
Labour Force Participation		
Male	70.7%	89.1%
Female	67.1%	77.8%
Employment Rate		
Male	55.2%	84.7%
Female	49.4%	73.7%
Unemployment Rate		
Male	22.0%	5.1%
Female	26.5%	5.2%

Source:

Human Resources and Employment. Persons with Disabilities in the Labour Force, Nov. 2004.

Persons with disabilities are more inclined than those without disabilities to feel overqualified for their jobs. They are also more likely to report having job stress.[21]

Immigrants

Despite their skills and education, many immigrants face challenges in the labour market. Immigrants arriving in Canada in the 1990s, and to a lesser extent in the 1980s, have had higher education levels than the Canadian average. However, in comparison with previous groups of immigrants they have experienced increased difficulty in finding employment and have been at greater risk of experiencing low income. It has been estimated that possibly one-half of the immigrants who come to Alberta with post-secondary credentials are not fully utilizing their skills and experience in their jobs.[22] This compromises the economic contribution of immigrants and leads to disappointment and frustration.

Challenges encountered by skilled immigrants to Alberta include not having the credentials and skills they acquired abroad recognized in Alberta, their lack of relevant Canadian work experience, and for some, their lack of proficiency in English. These challenges notwithstanding, the participation and unemployment rates of immigrants are only marginally lower then the Alberta average and immigrants can only be seen as an under-represented group insofar as their participation rate is lower and their unemployment rate higher then the Alberta average.

Relative Contribution of Under-Represented Groups

There are limits to which the further integration of under-represented groups into the labour force will increase the total labour force supply. Increasing the participation and employment rates of under-represented groups will add an estimated 6,100 persons per year to the labour force over the next decade. This is about one-sixth (or 17 per cent) of the estimated 36,000 people that were added to the employed labour force in the period of July 2004 to July 2005.[23] Put another way, integrating the under-represented groups more fully in the labour force may add an estimated 0.3 per cent annually to the total number of people in the labour force. In the past year, the labour force actually grew 2.1 per cent.

20 Human Resources and Employment. Persons with Disabilities in the Workforce, Nov. 2004, p. 4 and 13.

21 Human Resources and Employment. Persons with Disabilities in the Labour Force, Nov. 2004, pp. 23, 24. It indicates that 25.4 per cent of employed people with disabilities aged 25 to 54 years of age consider themselves to be overqualified for their jobs, compared to 19.2 per cent of those people without disabilities.

22 Alberta Learning. Foreign-Trained Professionals and Tradespeople in Alberta, 2002, as quoted in Government of Alberta Integrating Skilled Immigrants into the Alberta Economy, 2004, p. 2.

23 Statistics Canada, Labour Force Statistics, July 2005

These estimates are order-of-magnitude only and assume the highest labour force participation observed (currently that of males) as the norm. Challenges implied in this assumption include:

- the age profile and general lower educational attainment of Aboriginal people,
- the employment-limiting challenges faced by many persons with disabilities, and
- the known issues of integrating immigrants into the workforce and utilizing their skills and education fully.

Table 7
Estimated Number of Additional Workers from Under-Represented Groups

Under-Represented Group[1]	Estimated Total[2] (Annual)	Percentage of Total Workforce
Aboriginal People	2,200	0.1%
Persons with Disabilities	2,300	0.1%
Immigrants (age 15-65)	1,600	0.1%
Total	6,100	0.3%

Notes:

1 An under-represented group is defined here as a group with a lower participation rate than the highest observed rate (currently the group with the highest observed participation rate is males).

2 Does not include the majority of working-age aboriginal people, persons with disabilities, and immigrants already in the labour force.

Assumptions:

Aboriginal people and mild/moderately disabled people participate in the economy and experience unemployment at the same level as all males; adjustment period of 10 years.

Immigrants (at the level and age profile of 2004) participate in the economy and experience unemployment at the same level as all males do.

Most working-age aboriginal people, persons with mild to moderate disabilities, and immigrants are already in the labour force, although they tend to experience higher unemployment than the provincial average. The estimated total of 6,100 people relates to the number of additional people in the indicated groups that potentially could be drawn into the employed labour force annually.

Immigration warrants special attention as it is often seen as the key solution to the labour force development issues. Indeed, immigration is an important element of current and anticipated labour force growth. However, expanding the number of immigrants beyond the estimated 16,500 people in 2004 may prove difficult in view of the increasing competition for skilled immigrants. Similarly attracting more migrants from the rest of Canada – another important way in which the Alberta labour force is currently growing – is likely to be limited, especially when other provincial economies are strong.

2.2.4 Women

Increasing the involvement of women in the labour force is a component of the labour force strategies of some other jurisdictions. Women can be seen as a potential source of additional labour supply in view of their lower rate of participation in the labour force and higher likelihood of working part-time as compared to men.

Table 8
Labour Force Participation and Unemployment Rates (2004)

	Participation Rate		Unemployment Rate	
	Women	Men	Women	Men
Alberta	67.3%	79.7%	4.7%	4.6%
Canada	62.1%	73.3%	6.8%	7.5%
US	59.2%	73.3%	5.4%	5.6%

Sources:

Statistics Canada. Labour Force, employed and unemployed, numbers and rates by province, 2005. http://www40.statcan.ca/l01/cst01/labor07c.htm

US Department of Labour. Labour Force Statistics from Current Population Survey. 2005. http://www.bls.gov/webapps/legacy/cpsatab1.htm. Numbers shown are simple averages derived from monthly data.

However, women in Alberta already participate more fully in the labour force than in most developed economies. In areas of the province with very high economic activity and a high cost of living, such as the Wood Buffalo region, the participation of women is higher still than the Alberta average of over 67 per cent. Women continue to remain under-represented in non-traditional occupations such as the trades. For the 2004-05 year, women made up only 8.6 per cent of the total number of apprentices. Most women were in "traditional" trades such as hairstylist and cooks.

In any case, attracting more women more fully into the workforce has potential social policy implications, such as an increased need for early childhood development programs, provision for longer parental leaves, and pension reforms.

2.2.5 Part-Time Workers

In the context of low unemployment, part-time work reduces the effective labour force size. The number of people working part time – defined as 30 hours per week or less – continues to grow in Canada and Alberta, generally in line with total employment growth. Part-time workers constitute a relatively steady 18 per cent to 19 per cent of people in the labour force in Canada and Alberta.

Canada-wide information suggests that more than half of men aged 25 to 54 who work part time desire to work full time, indicating a potential source of labour force growth. Of the approximately three million Canadian workers employed part time, about three-quarters choose to do so. Youths, older workers and women aged 25 to 54 are most likely to choose part-time work. Most young people require part-time work because they are going to school, and older workers choose shorter hours as a way of transitioning to retirement. Adult women often work part time because of personal or family responsibilities.[24]

2.2.6 Youth

Young people – defined as people between the ages of 15 and 24 – are the largest group of new entrants into the labour force. As a group they are expected to decline from an estimated fifteen per cent of the total population in 2005 to about ten per cent in 2030, reflecting the smaller size of the cohorts following the baby boomer generation.

The employment rate of Alberta youths has increased from 60 per cent in 1993 to 66 per cent in 2004, while youth unemployment fell from over 13 per cent to 8.5 per cent. The youth participation rate continues to trail and the youth unemployment rate remains higher than the overall rate. There is a positive correlation between employment opportunities and education levels.[25]

High School

By the time they are in their mid-thirties, 90 per cent of Albertans will have completed high school, noting that:

- Alberta's high school completion rate within three years is estimated at 69 per cent in 2003-04, the most current year for which data are available, up from 62 per cent in 1997-98;
- Within five years of entering high school, this completion rate rises to 75 per cent.[26]

On average, Alberta students take longer than students in other provinces to complete their high school, even though:

- employment and wage rates increase with education; and
- most jobs require at least a high school diploma and increasingly some post-secondary education.

Alberta's strong economy may be considered as one of the contributors to the high school early leaver rate,[27] although there are others, including developmental and learning disabilities and teenage pregnancy.

2.2.7 Older Workers

The engagement or disengagement of older workers will have an impact on workforce development needs of the province. Currently, older workers in Alberta (age 45 and over):

- are more engaged in the labour force than their counterparts in other parts of the country,
- experience lower unemployment than the provincial average, and
- experienced increases in their employment rate that were higher than the overall Alberta rate over the past decade.[28]

As a group, older workers are relatively highly skilled and have significant work and life experience. Their continued engagement may be more likely in less physically demanding occupations, such as sales, services, finance and administration. Other variables that may influence older workers to remain in the workforce include:[29]

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24 Statistics Canada. The Canadian Labour Market at a Glance, Employment Indexes, by Type of Work, 2004, pp. 51-52.

25 Alberta Human Resources and Employment. Youth in the Labour Force, June 2005, p. 2.

Statistics Canada, Labour Force Statistics, April 2005.

26 Alberta Education. http://www.education.gov.ab.ca/k-12/completion/HSComp.asp

27 Alberta Advanced Education. Profile of Alberta's Advanced Education System, 2005, p. 7.

28 Alberta Human Resources and Employment. Older Workers in the Labour Force, June 2005, p. 3.

29 Statistics Canada. "Retaining Older Workers," The Daily, (October 26, 2004) , p.1.

- options to work and draw pension simultaneously,
- availability of part-time work, and
- absence of mandatory retirement.

2.2.8 Highly Qualified People

Unleashing Innovation is one of the four pillars in the Province of Alberta's 20-year strategic business plan. Its goal is for Alberta to become a world leader in innovation, research, development and commercialization of new ideas. There are concerns, however, about the potential supply of highly qualified people – often people in scientific and technical professions – to drive the innovation required to create the envisaged value-added economy, including:

- a projected decline in the absolute number of 18 to 24 year olds in the province in about five years and a corresponding decline in post-secondary enrolments if participation rates remain at current levels;[30]
- increasing global competition for graduate students, related in part to economic growth in India and China, which have historically been important sources of international students in Canada, and the development of the post-secondary systems in these countries.

The group of highly qualified people includes more than people with advanced academic credentials. Other examples include certain older workers and immigrants with a particular combination of education and on-the-job experience. Lack of recognition of (foreign) work experience and, in the case of older workers, retirement are also affecting the supply of highly qualified workers.

Table 9
The Supply of Highly Qualified People

Variable	Direction
Supply of 18-24 year olds (i.e., potential university students) in Alberta	Declining after 2010
Supply of 18-24 year olds (i.e., potential university students) in Canada	Declining after 2013
International competition for graduate students	Increasing
High school completion rates within three years	Rising, but low
Acceptance of foreign credentials and work experience	Continuing to be problematic
Older experienced workers in technical and scientific professions	Declining as baby boomers retire

Source:
Alberta Advanced Education. Profile of Alberta's Advanced Education System, 2005, p. 105.

30 Alberta Advanced Education's *Access to the Future* initiative will expand post-secondary places. This initiative is anticipated to help counter the trend of potential declining post-secondary enrolments based on demographics.

3. Summary

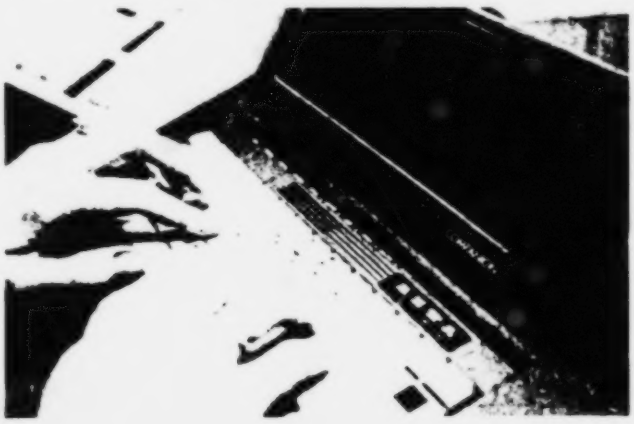
Key Labour Market Issues

Previous sections identify the key labour market issues impacting Alberta's economy. These issues and their strategic implications are reviewed in detail in Appendix A. They can be briefly summarized as follows:

- Alberta's economy will show continued strong economic growth, based, among others, on oil sands industry expansion and the rapid development of emerging economies.
- Population growth is slowing, and at the same time the workforce is aging.
- Knowledge and skill requirements for jobs are increasing. The economy of the future will require people with advanced skills.
- Alberta has had mixed success in attracting and retaining migrants from other provinces and new immigrants from other countries.
- Some groups, including Aboriginal people, immigrants and people with disabilities, are under-represented in the workforce.
- Other groups, including youth, women and older workers, face particular challenges in the workforce.

The Need for Change

These issues are forcing us to pay renewed attention to the labour market and to re-think the strategies we use in labour force development. More work continues to be needed to help people in groups under-represented in the labour force to find employment. In particular, immigrants are increasingly seen as adding to our labour force and providing the necessary skills required for our economy. Equally important for the future will be strategies that foster innovation and increased productivity, and result in increased capacity within the labour force.



Where To From Here?

Analysis of the key labour market issues supports the following observations:

- The expected continued strong economy will create employment opportunities in the context of a slowly growing labour force. Future prosperity will depend on labour productivity rather than numbers of people in the labour force.
- Continued high growth is expected to cause temporary shortages in selected occupations. At the same time, the high-growth economy provides an opportunity to invest in the province's workforce and position Albertans for future work.
- In-migrants, immigrants, and groups currently under-represented have an important role to play in the labour force development, but their size will limit the contribution they can make. Retention strategies will be key to maintaining our labour force.
- With changing knowledge and skill requirements, a basic education foundation and access to – and participation in – learning and training throughout life will be essential to ensure the overall knowledge and skill levels in the labour force are adequate to support the development of Alberta's economy.

Encouraging Dialogue

The Government of Alberta is working to build a new future – one that is more inclusive and that will provide more opportunities for all. This paper provides a focus on the labour market issues impacting Alberta. It also provides a first indication of some of the implications for the development of Alberta's labour force strategies. The intent is to spur discussion and to engage stakeholders in joining the debate on how best to prepare Alberta's labour force to meet economic challenges, both current and future.

Appendix A: Summary of Labour Market Issues

Summary of Labour Market Issues

Issue	Description	Unique Aspects of Alberta	Strategic Implications
Continued strong economic growth	Globalization and rapid development of emerging economies, especially China, drive the world demand for energy, minerals, and forest products. Continued growth of the US economy secures a ready demand for many export products, including energy, forestry, and agricultural products. This demand may decline if some fundamental economic imbalances constrain future US growth. Oil sands industry expansion is fuelling an unprecedented investment-led economic growth. The associated employment creation and general positive economic outlook spur consumer spending, further fuelling strong economic performance.	Continued importance of resource sector implies business cycles as oil, gas, mineral, and forestry product prices fluctuate. Alberta exports are in high demand and command high prices. Alberta's economy is in a phase of high growth that has been sustained over a number of years and is expected to continue for at least the next five years. Current growth is driven by Alberta's resource wealth, with increasingly knowledge-intensive extraction and production processes. While this forms the basis for Alberta's new economy, it is not the cutting edge. Alberta's strong economy is providing an incentive for young people to enter the workforce prior to finishing high school.	Continued high growth is expected to cause temporary shortages in selected trades and perhaps structural shortages in selected occupations. Current high-growth economy and associated government revenues provide an opportunity to invest in the province's work force and position Albertans for future work. Strategies need to balance focus on current labour force issues and positioning Alberta optimally for future economic growth. Importance of access to learning and retraining opportunities throughout life and information and support to make work and learning decisions.
Changing face of work	Work in the future will be more knowledge-based. Current production processes will change through continuous improvement and a focus on enhanced productivity. New work and new types of work will emerge as a result of an increased focus on innovation and commercialization of new technologies. Knowledge and skill requirements for jobs are changing. By 2013, 64 per cent of all new jobs created in Canada will require some level of advanced education.	Oil and gas industry changing from conventional to oil sands and coal bed methane-based production. Growth of Alberta's manufacturing industry and increasing automation of production processes.	Labour force development needs to go beyond what is needed now. There is a need for balance between short and long-term labour force needs. A basic education foundation and access to – and participation in – learning and training throughout life will be increasingly important to ensure the overall knowledge and skill levels in the labour force are adequate to support the planned development of Alberta's economy.

Summary of Labour Market Issues *continued*

Issue	Description	Unique Aspects of Alberta	Strategic Implications
Slow population growth	Most advanced economies have entered into an era of slow population growth, reflecting fertility rates below the replacement rate.	The population of the province is growing, but not at a rate that is equal to that of the economy. Alberta's population is forecasted to grow relatively slowly at 1.6 per cent annually in the 2000 to 2030 period. However, it is expected to grow more quickly than the population of Canada as a whole and of most other developed countries.	Future prosperity will depend on labour productivity rather than the number of people who are economically active. Increased participation of under-represented groups in the labour force (women, older workers, youth, Aboriginal people, persons with disabilities, immigrants) may in part alleviate the slowing population growth. Further integration of currently under-represented groups will change the labour force profile and may require adjustments to the workplace and the way we work.
Aging workforce	The demographics of many advanced economies is characterized by the large cohort of baby boomers. Age cohorts following the boomer cohort are smaller. The aging of the baby boomers and their retirement will reduce the number of workers active in the workforce. Boomers are expected to live longer than seniors from previous generations, and to enjoy better health.	Alberta's population is marginally younger than that of Canada and definitely younger than that of many European countries and Japan.	Imminent retirement of boomers, combined with the high real requirement for workers now, suggest the need for incentives to keep older workers in the workforce.
Varying success in attracting migrants from other provinces	Alberta experiences fluctuations in net inter-provincial migration. Inter-provincial migration into Alberta tends to be strongest when abundant employment opportunities here are combined with limited prospects in other provinces. Increased growth in BC, sustained economic performance in Ontario and the emergence of an oil and gas industry in the Maritimes may reduce Alberta's ability to attract people from other parts of Canada in the future.	Net inter-provincial migration was in the 10,500-11,500 range in 2003 and 2004, down from almost 25,000 in 2001.	Inter-provincial migration is not a reliable source for future workforce development. It also reduces the growth opportunities for other parts of Canada, which, in turn, can have a negative impact on Alberta's economy.

Summary of Labour Market Issues *continued*

Issue	Description	Unique Aspects of Alberta	Strategic Implications
Limited attraction of new immigrants	Immigrants overwhelmingly settle in large metropolitan areas where there are existing immigrant communities and services. There is competition for the limited pool of immigrants with the technical and language skills required in developed countries.	Alberta does not attract immigrants in proportion with its population and Calgary and Edmonton trail Toronto, Montreal and Vancouver as preferred destinations for new immigrants. Immigrants settling in rural areas tend to be highly skilled (e.g., physicians); there are some smaller communities that attract relatively lower skilled workers (e.g., Brooks and High River where there are large packing plants).	Employment opportunities alone are not enough to attract most immigrants. Quality of life considerations, including the size of ethno-cultural communities, settlement services, and image also play a role. Making Alberta the Best Place to Live, Work and Visit is a pre-condition for attracting immigrants. Alberta as the best place to live and work must also be communicated effectively to counter a lingering image of Alberta as a remote and uncomfortable place for some immigrants to live and work. Social implications of increased immigration will need to be considered. The number of immigrants that can be integrated successfully may be limited in the short term.
Immigrants find it difficult to have their skills recognized	Immigrants often have trouble having out-of-Canada credentials and work experience recognized and, as a consequence, may be doing work that does not fully utilize their skills.	Direct recruitment by companies reduces credential/Canadian work experience issues for some immigrants.	Finding ways in which immigrants can be more fully and satisfactorily integrated into the workforce will increase the ability of Alberta to attract skilled immigrants.
Women in the workforce	Women have a lower participation rate in the workforce than men. They also tend to have a higher level of involvement in part-time work than men.	Participation of women in the workforce is higher in Alberta than in Canada.	Further increasing the participation of women in the workforce may require social policy changes (e.g., child care, flexibility in employment standards).
Aboriginal population is growing faster than the general population	Aboriginal people as a group are younger than the general population and Aboriginal women have more children than non-Aboriginal women. Labour force participation is lower and unemployment is higher among Aboriginal persons as compared to non-Aboriginal persons.	The number of Aboriginal people in Alberta is high relative to Canada. Alberta's strong economy may be able to attract Aboriginal people from Saskatchewan and Manitoba, which also have relatively high Aboriginal populations.	Aboriginal people are a potential group of workers that may increase the number of available workers, recognizing that increased labour force participation will likely require substantial education and training efforts, especially in light of the increasingly high education requirements of most jobs.

Summary of Labour Market Issues *continued*

Issue	Description	Unique Aspects of Alberta	Strategic Implications
Persons with disabilities are under-represented in the workforce	Participation of persons with disabilities is low relative to the total workforce and the unemployment rate is high. The high unemployment rate may suggest a high willingness to work.	Labour participation rates for persons with disabilities are higher and unemployment lower in Alberta as compared to the rest of Canada.	A move to a more knowledge-based economy may provide more employment opportunity for some persons with disabilities, such as those with mobility or agility challenges.
Youths take longer to finish high school	A percentage of youths leave high school early for a variety of reasons, including work. Many return to school and complete high school later.	Albertans take longer than other Canadian youths to finish high school. In 2003-04, only 69 per cent of Alberta youth finished high school within three years of starting it. Eventually, an estimated 90 per cent of people go on to complete high school, which is consistent with the Canadian average.	Motivating youth to finish high school quicker and to continue onto post secondary education will increase their participation rate and wage levels.
Older workers are an important element of the labour force	As boomers age, the older worker category (age 45 and over) is numerically large. Older workers also embody much experience and specialized expertise.	Older workers in Alberta are more engaged in the labour force than their counterparts in other parts of the country and they experience lower unemployment than the provincial average.	Enticing older workers to remain in the workforce will delay the further slow down and eventual contraction of the labour force.
New economy needs highly qualified people	The cutting edge of the new economy will require people with advanced skills, be they academic or technical.	The number of potential entrants into university will start to decline in 2011.	Selected sectors of the knowledge-based economy (e.g., medical research) will not develop without highly educated researchers and highly skilled technicians.

Summary of Labour Market Issues *continued*

Issue	Description	Unique Aspects of Alberta	Strategic Implications
Persons with disabilities are under-represented in the workforce	Participation of persons with disabilities is low relative to the total workforce and the unemployment rate is high. The high unemployment rate may suggest a high willingness to work.	Labour participation rates for persons with disabilities are higher and unemployment lower in Alberta as compared to the rest of Canada.	A move to a more knowledge-based economy may provide more employment opportunity for some persons with disabilities, such as those with mobility or agility challenges.
Youths take longer to finish high school	A percentage of youths leave high school early for a variety of reasons, including work. Many return to school and complete high school later.	Albertans take longer than other Canadian youths to finish high school. In 2003-04, only 69 per cent of Alberta youth finished high school within three years of starting it. Eventually, an estimated 90 per cent of people go on to complete high school, which is consistent with the Canadian average.	Motivating youth to finish high school quicker and to continue onto post secondary education will increase their participation rate and wage levels.
Older workers are an important element of the labour force	As boomers age, the older worker category (age 45 and over) is numerically large. Older workers also embody much experience and specialized expertise.	Older workers in Alberta are more engaged in the labour force than their counterparts in other parts of the country and they experience lower unemployment than the provincial average.	Enticing older workers to remain in the workforce will delay the further slow down and eventual contraction of the labour force.
New economy needs highly qualified people	The cutting edge of the new economy will require people with advanced skills, be they academic or technical.	The number of potential entrants into university will start to decline in 2011.	Selected sectors of the knowledge-based economy (e.g., medical research) will not develop without highly educated researchers and highly skilled technicians.

Appendix B: Implications for Selected Key Sectors

Introduction

This appendix describes in general terms the implications of labour market issues for selected sectors of the Alberta economy. The sectors described are illustrative of sectors active in today's economy and those value-added sectors in which Alberta is positioning itself to have a competitive advantage and market opportunity for the future.[31] This listing does not purport to be exhaustive and is intended to illustrate the issues discussed and the variation of their influence on different sectors. Each sector discussion provides a concise overview of:

- the current situation,
- industry outlook, and
- challenges and issues.

Agriculture and Agri-Food Sector

Current Situation

Employment in this industry refers to the labour force in primary agriculture and secondary food and beverage processing industries. The Agriculture and Agri-Food sector continues to be a key component of Canada's economy, employing one out of eight Canadians. Alberta is the second-largest agricultural producer in Canada, behind Ontario. In 2004, primary agriculture accounted for 3.7 per cent and the Food and Beverage industry accounted for additional 1.5 per cent of the labour force. In total, the Agri-Food industry employs an estimated 91,800 workers or 5.2 per cent of the provincial workforce.[32]

Industry Outlook

This industry is expected to continue to emphasize more value-added production through food processing, and to continue to diversify into alternative crops. The industry is also expected to be affected by changes in food tastes, which, in turn, are related to changing demographics. The trend towards healthier eating habits could lead to increased opportunities for fruit and vege table production, as well as organically grown products. Meat consumption is expected to decline on a per capita basis.

The industry will continue to increase productivity through new applications of biotechnology and information technology, and more processes will be automated. While there will be a more diverse range of employment opportunities in agriculture operations, the industry is expected to lose workers to other employment opportunities.[33]

Challenges and Issues

Employment levels in primary agriculture in Alberta have been in long-term decline as the dominant production model has shifted from small family farms to large-scale family and corporate agricultural enterprises. Labour force development issues faced by the industry include:

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31 Alberta Human Resources and Employment, Securing Tomorrow's Prosperity. Spring 2004. p. 11.

32 Agriculture, Food and Rural Development, Employment in Alberta Agri-Food Industries, 2004. Agri-Food Statistics Update - Issue No. 88 - April 7, 2005

33 Human Resources and Employment. Alberta Careers Update 2004, 2004, p. 23.

- extensive reliance on relatively low-skilled workers, many of whom are recent immigrants with limited language and other skills;
- the challenge of increasing their value-added output, which implies more and more sophisticated production processes;
- very low margins, which are in part driven down by aggressive pricing strategies of leading retailers; and
- strong competition for their ablest workers from other sectors, including the oil and gas and oil sands industries, where wages are higher and there are many jobs available.

The changes in the industry are changing the type of work and skills needed in primary agricultural production. Increasing in importance are:

- technical agronomic and managerial skills; and
- marketing and product development knowledge and skills.

Mechanization and automation of selected processes, including slaughtering and dressing of animals, is under active consideration as one approach to lessen labour issues in the industry. Low margins and the lack of skilled workers to maintain and operate more mechanized processes, however, present serious barriers.

Labour issues in the rural economy go beyond the attraction and retention of agricultural workers. Young people need to be retained in rural communities and new workers need to be attracted to maintain vibrant communities that provide a broad range of services.

Construction Sector

Current Situation

The Construction industry led the way in employment gains in Alberta in 2004, creating 15,700 jobs, roughly a 10 per cent increase in employment over 2003.[34] Construction activity is at a very high level in Alberta. For example:

- housing construction costs are increasing and the time required to construct a house is increasing because of the high demand for skilled trades people, and
- industrial construction has grown rapidly in recent years and the levels of activity are expected to continue to remain high over the next few years as investment in major oil sands projects continues.

The construction workforce has expanded in response to the increased demand – from 101,000 workers in 1996 to 157,000 workers in December 2004.[35]

Industry Outlook

Notwithstanding the expansion in the construction labour force, the high level of investment in construction projects by the Energy sector and robust housing starts mean some shortages in skilled workers are already being felt, particularly during peak periods, and could be more acute in the future. Key trades that are experiencing or expecting shortages include welders, boilermakers, carpenters, and plumbers.

The *Supply/Demand Forecast* (2005 – 2009 Summary Report) prepared by the Construction Workforce Development Forecasting Committee shows a construction cycle similar to that encountered over the 1998 to 2003 period, but with a higher peak in demand for construction workers than that observed in 2001. It forecasts:

- a sharp increase in the demand for trades over the next three years, followed by an easing of demand growth in 2008 and a decline in 2009; and
- a tight supply of workers for most of the trades with shortages only occurring at peak periods.

The report notes the forecast may overestimate the number of workers who will actually be prepared to "work mobile" on remote northern sites. The report identifies labour shortages on remote projects could be more pronounced than forecasted, unless innovative ways are used to attract workers to these sites and retain them.[36]

Challenges and Issues

Industry-specific constraints

Labour force development in the Construction industry is influenced by a number of industry-specific constraints, including:

- the typical boom and bust nature of the construction industry, although the industry is currently in a very robust phase, buoyed by high levels of investment in Alberta;
- a reluctance on the part of many construction workers to work in camp conditions in the Wood Buffalo Region, where a large proportion of the industrial work in the province is located; and
- fairly pronounced aging of Alberta's skilled construction workforce.

Increasing "tool time"

The efficient management of existing labour is important in the construction sector, especially at very large and complex worksites. Increasing "tool time" – the time a worker is actually productively at work – may offer potential to increase productivity. Increasing tool time requires better project management, including:

- high level coordination of engineering, procurement and transportation of materials and equipment, and labour; and
- effective structuring of daily work packages.

Training

Although it is at times difficult to find skilled construction workers, the overall pool of construction workers is relatively large, with the total residential, commercial, and industrial construction workforce estimated at over 150,000. Additional workers are being trained, with the number of registered apprentices increasing from 25,000 in 1996 to 39,000 in 2003. The skilled labour issue in Alberta's

34 Human Resources and Employment. 2004 Annual Alberta Labour Market Review, 2005, p. 6.

35 Statistics Canada, Labour Force Statistics, various issues

36 Construction Workforce Development Forecasting Committee. Trades Demand and Supply Forecast: Industrial and Engineering Construction Related Trades 2005-2009, May 2005, p. 21

construction sector can be seen as a well-established training system being overwhelmed by a historically very high level of demand. The exception may be project planning, where the total pool of skilled workers/technicians is small and limited formal training exists.

In-Migration

Worker mobility is central to the balance in Alberta's construction labour market. The availability of workers from other jurisdictions is related to levels of economic development outside Alberta and is likely going to be limited. Although there are efforts underway to further facilitate inter-provincial movement of skilled workers, the potential to attract significant numbers of workers from elsewhere in Canada is likely limited.

Energy and Energy Technologies and Services Sector

Despite a projected decrease in overall labour demand during the next 10 years (in the conventional oil and gas industry), certain skills are likely to be in short supply.[38]

Petroleum Human Resources Council 2004

Current Situation

The Energy sector is a broad sector that includes coal, electricity, minerals, natural gas, oil, oil sands, and petrochemicals. The focus here is on the oil and gas sector, which employed 106,800 people in 2004. The industry added an estimated 10,300 jobs in 2004, an increase of about 10 per cent over 2003.[37] The sector's growth is spurred by relatively high commodity prices. A stable political situation positions Alberta as a desirable location for oil and gas investments.

Industry Outlook

Although buoyed by historically very high prices in 2004 and 2005, the conventional oil and gas industry in Alberta is declining as the Western Sedimentary Basin matures. This has a number of implications:

- there will be a general decrease in overall labour demand, and
- there will be a shift in skill requirements as the industry moves away from wildcat and step-out drilling to enhanced recovery methods.

The Energy industry is increasingly depending on oil sands to maintain and expand production levels. The Oil Sands industry is in an unprecedented expansion phase, with the first new oil sands plants since the mid-1970s now operational. Several others are expected to become operational in the next five years.

Challenges and Issues

Industry-specific constraints

Work force development in the conventional energy industry is influenced by a number of industry-specific constraints, including:

- the vulnerability of the sector to fluctuations in world oil prices;
- the challenging working conditions in the industry, and perceptions of the work being dangerous; and
- the seasonal nature of much of the work.

The oil sands segment of the industry is very different. Oil sand plants are continuous operations and have long lasting reserves. Their large capital costs suggest continued operations even when prices are low.

Recruitment challenges

Even though oil sands plants require relatively more capital than labour than conventional oil and gas facilities, the current expansion of the Oil Sands sector is already presenting industry with challenges in recruiting plant operations workers. This challenge is not only one of finding the right skills – process operators, heavy equipment operators, mechanics, and plant maintenance personnel are among the key skills required – but also attracting these people to the Wood Buffalo region. Adequate public infrastructure will be needed to support labour force development.

As with the construction industry, it is the unprecedented growth of oil sands driving the industry's labour force issues. The education system is not responding fast enough to meet the demands of industry. Relatively high levels of economic activity in other provinces and the US hamper recruitment from other provinces and abroad.

Continuous Improvement

Declining production volumes in the conventional oil and gas industry will place a focus on energy technologies and services to increase efficiency and the use of advanced technologies, such as remote monitoring. The increasing sophistication of the equipment and work practices in the industry limits its ability to use seasonal or part-time rural workers without industry-specific training.

Continuous improvement in the oil sands segment of the industry shows itself in gradual changes in the production processes employed. Most production optimizing changes imply increasing the technology content of the processes, which, in turn, have labour force training implications.

Environmental Technologies and Services Sector

Current Situation

The Environmental industry is comprised of a growing mix of private and public organizations developing or providing goods and services aimed at preventing or mitigating environmental impacts. In Alberta, and in Canada as a whole, the Environmental industry is in the ascendancy.

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37 Human Resources and Employment. 2004 Annual Alberta Labour Market Review, 2005, p. 6.

38 Petroleum Human Resources Council of Canada. Strategic Human Resources Study of the Upstream Petroleum Industry: The Decade Ahead. Executive Summary, 2003, p. 3.

The Alberta sector is dominated by small and medium sized firms, 80 per cent of which provide services (e.g., consulting) as their primary business, with just over 15 per cent in the equipment and supply business. Small and medium sized firms active in the Environmental sector typically employ fewer than 25 people and provide specialized expertise, technologies and services to other business sectors – in particular to primary Resource, Manufacturing, Energy and Service sectors – and to governments at all levels. The service firms in the sector have a predominantly domestic focus, while the technology firms are more export-oriented.[39]

Industry Outlook

High levels of investment in the Energy sector in Alberta, particularly in the oil sands industry, means businesses that provide environmental services, such as consulting, will continue to show growth. Sub-sectors such as environmental engineering are also anticipated to remain busy. Generally, the increasing importance of environmental issues suggests growth opportunities for the sector.

Challenges and Issues

Further development of Alberta's natural resources (e.g., oil sands, coal) and the associated growth already has made recruitment and retention of sufficient and sufficiently experienced people a challenge for the environmental services sector. Recruitment is expected to remain a challenge in the near and medium term.

Additional challenges for more export-oriented technology firms include:

- the cost and risk of technology commercialization; and
- the competitive pressures from often much larger environmental technology firms in the US and elsewhere.

Forestry Sector

Current Situation

The Forestry and Forestry Products industry consists of the primary Forestry sector, including pulp and oriented strand board, and the secondary sector, which includes paper and value-added wood processing. Forestry and logging and support activities in this area provide employment for almost 4,800 people,[40] with estimates as high as 54,000 jobs for the primary and secondary sectors as a whole, and an additional 15,000 jobs in the supply and service sector[41]. Much of the primary work is done in the north of the province, and the secondary manufacturing in the south. The industry is a significant economic contributor in over 50 Alberta communities, some of which are almost completely dependent on forestry as their economic base.[42]

Industry Outlook

The Forestry sector is a high tech, capital-intensive industry that competes globally. The industry will continue to rely on new technology, for example, information systems, harvesting technology, geographic information systems and computer modelling to reduce environmental impact. Environmental sustainability will continue to be a key focus.

The industry has experienced strong lumber prices due to high demand from the construction industry. Increased supply may temper prices in the near term. High United States import duties remain problematic.

Challenges and Issues

Alberta's primary forestry and logging industry is not expected to grow significantly because essentially all available timber in the province is allocated. If the trend towards consolidation in the industry continues, there may be a decline in employment in the sector. Technological advancements are also expected to reduce employment levels in this sector.

The wood and paper manufacturing sector is expanding, with employment growth anticipated at just short of two per cent per year through 2008. The sector is experiencing strong competition for their ablest workers from other sectors, including the oil and gas and oil sands industries, where wages are higher and work is plentiful. An additional challenge is the shortage of truck drivers to transport both logs and processed materials.

Health Care Sector

Current Situation

Health systems comprise all organizations, institutions and resources that produce actions whose primary purpose is to maintain and improve health.[43] Health care services include those services provided in hospitals, nursing homes, residential care, out-patient care centres, medical and diagnostic laboratories, and the offices of health practitioners such as dentists, doctors, optometrists and chiropractors; public health services; disease prevention and health promotion services provided in community health centres and home care services. The accessibility of health care services requested by the public, its delivery and cost is a key concern of the general public and governments in Alberta and Canada.

Alberta has placed a special emphasis on funding health research and the province is gaining national and international recognition as a centre for excellence in specific clinical areas such as cardiac and pediatric care. Leading researchers who have attained international/national renown staff centres of excellence. These researchers are attracted to centres of excellence that provide the funding, resources and clinical network required for groundbreaking research in their field.

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39 Western Economic Diversification Canada website, http://www.wd.gc.ca

40 Statistics Canada, Labour Force Survey, 2004.

41 Alberta Forest Products Association website, http://wwwlalbertaforestproducts.ca

42 Alberta Forest Products Association website, http://www.albertaforestproducts.ca

43 World Health Organization, Draft Outline: World Health Report 2006, http://www.who.int/hrh/whr06_consultation/.

Examples of provincial centres of excellence that combine service delivery and research/education include the $125 million Alberta Heart Institute, the Alberta Bone and Joint Health Program and Network; and the Comprehensive Tissue Centre that provides tissue for transplantation. Health research is this context is not only furthering the state of health knowledge and treatment protocols; it is also a way to diversify the provincial economy and create a building block of the knowledge-based economy.

The size of the sector is hard to define because the definition of the sector itself is open to discussion. The Statistics Canada Labour Force Survey estimates 163,200 jobs in the Health Care and Social Assistance Industry.[44] Health care makes up the majority of these jobs.

Industry Outlook

The industry has long been one of innovation and change, and will continue to be so as new drugs are developed, as information and communications technology allows telehealth and long-distance diagnostics, and as service changes are developed and implemented. While Alberta's population is somewhat younger than the Canadian average, a primary concern for the future will be meeting the health care needs of an aging population.[45]

Challenges and Issues

Growth

Increases in provincial and federal health care expenditures over the past five years have led to an increase in the number of health care and social assistance professionals employed in Alberta. Despite these increases, shortages of health professionals continue to exist in Alberta, particularly in rural and remote areas of the province. The situation in Alberta is mirrored in other provinces and in other countries.

In-Migrants and Immigration

The supply side of the health care workforce relies primarily on education and immigration. With increased funding in the past five years, thousands of new post-secondary seats in health disciplines have been added but more are being sought. Immigration programs are extremely important and valuable tools for attracting health professionals. Alberta has been successful in attracting a number of professionals from both within and outside Canada. However, the active recruitment of health professionals from other provinces and other countries has negative consequences for those jurisdictions and brings issues of the recognition of foreign credentials to the fore.

Changing Face of Work

The provincial health system is undergoing significant structural reforms to improve its accessibility, integration and cost-effectiveness. These innovations include medical and pharmacological technologies, and major changes in the organization and delivery of health services such as telehealth services and Local Primary Care Initiative (which are partnerships between regional health authorities and physicians to provide a comprehensive range of primary care services). These innovations will change the work practices and relationships of health occupations. Other innovative health service delivery models are also being implemented to specifically improve health workforce utilization.

Factors affecting health workforce planning include:

- direct provincial funding plays a major role in the health sector. For this reason, there is a heightened sensitivity in the health care labour market to government funding directions.
- workforce planning is politically sensitive and open to greater public scrutiny (i.e., public attention to waiting lists, hospital bed closures, physician shortages).
- a general sense of frustration exists within the health care workforce about working conditions and the inability of many workers to achieve an acceptable work-life balance. Sick-time among health professionals is consistently greater than other professions.
- public expectations of the health care system are increasing. Unlike most other industries, the public health care system attempts to reduce demand rather than increase it. The future of health care will place greater emphasis on preventative health care and whole-person health as a way of reducing demand.

Aging Population

The general aging of the population will have major effects on the health care system:

- it will affect the supply of health professionals as a large number of physicians and nurses reach potential retirement age; and
- it will increase demand by the elderly for both active treatment and long-term care, which drives the demand for a wide cross-section of health care providers, especially physicians, nurses and trained health care aides. These occupations are already experiencing short labour supply.
- Many health occupations are physically demanding. This factor, coupled with an aging workforce, leads to increased likelihood of injury and absenteeism.

Information and Communication Technology (ICT) Sector

Current Situation

The dot.com collapse in 2000 proved that the ICT industry is not immune to shocks, as some industry boosters had suggested. The ICT industry has nevertheless grown substantially in Alberta, essentially doubling since 1994. People working in the industry are:[46]

- well trained (university degrees or college diplomas);
- mainly based in Edmonton and Calgary; and
- young (over 40 per cent of workers are less than 35 years old).

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44 Human Resources and Employment. 2004 Annual Alberta Labour Market Review, 2005, p. 6.

45 Human Resources and Employment. 2004 Annual Alberta Labour Market Review, 2005, p. 27.

46 Industry Canada. Canadian ICT Statistical Overview. http://strategis.ic.gc.ca

The province has had some success in attracting call centres, providing services to a continental market. There is no standard education requirement for call centre agents, but most employers prefer to hire applicants who have a high school diploma or some post-secondary education. The call centre industry tends to have high employee turnover rates and, consequently, it is in a continuous training mode, much of it delivered on the job.

Industry Outlook

Work in the ICT sector itself is very dynamic with new technologies (e.g., web-based applications) and market segments (e.g., wireless computing, internet security) emerging and converging. Globally, the ICT sector provides an example of globalization of work. India and other countries have emerged as providers of ICT services, often linked seamlessly into customer support and back office processes in North America and Europe.

More than anything, the ICT sector has contributed to the changes in which other sectors work and hence to changes in the education and skills requirements of other sectors.

Challenges and Issues

Hiring qualified employees is a significant challenge. Many ICT companies see immigration as critical to address skill shortages in this industry, as Canadian universities cannot keep up with demand. However, Alberta faces international competition for qualified staff with other countries.

Manufacturing

Current Situation

The manufacturing sector is a key component of the Alberta economy and employs over 144,000 Albertans.[47] The value of manufacturing shipments grew by over 72 per cent between 1996 and 2004, driven by both more output and higher prices for manufactured goods. The value of manufactured goods in Alberta in January 2005 grew by 13.5 per cent over the same period in the prior year. This is the highest increase in the country and more than triple the national average.[48]

Growth in the manufacturing sector has led to concerns over labour shortages. According to a Canadian Federation of Independent Businesses (CFIB) survey, business concerns over the shortage of qualified labour in 2002 in the manufacturing sector was the second highest (61.7 per cent) after the construction sector. Unemployment in the sector is estimated at 4.3 per cent.[49]

Industry Outlook

Labour Shortages

Alberta's continued strong economic growth is expected to lead to a high employment growth rate in the manufacturing sector with over 24,800 new jobs being created between 2005 to 2010. This represents an average growth rate of 2.7 per cent annually.[50] Many of these new jobs are a result of manufacturing related to oil sands projects. New opportunities will be high for the industrial machinery and equipment sector as a result of this expansion, leading to a labour crunch in this sector with an increasing shortage of skilled workers, such as welders and pipe fitters.

Lean Manufacturing

Tight labour supply and leading edge production processes are key drivers for a push towards "lean" manufacturing (less time, less inventory, increased use of technology and fewer workers requiring less space). Lean manufacturing requires increased skill levels of workers, implying the need for more and more specialized training.

Challenges and Issues

Workers in general require higher skill levels, and many processes involve complex tasks using different types of machinery. New skills are required: workers must be part technician, part craftsperson and part trouble-shooter. At the same time, the increased emphasis competition from a global economy means the cost to develop products must be reduced.

Small Business Sector

Current Situation

Small businesses cut across all sectors discussed here. They are important in terms of total number of jobs, accounting for 49 per cent of all private sector jobs in Canada. Small businesses are dominant in the service sector where they account for 75 per cent of all private sectors jobs. In the goods producing sector, small businesses account for about 25 per cent of all private sector jobs.

The job creation picture among small business is complex. In the 1994 to 2004 period, the relative contribution of small, medium, and large businesses varied greatly. For six years, in 1996 and 1997 and from 2000 to 2003, small businesses made the greatest contribution to net job creation. But in 1994 and 1995, medium-sized businesses created the most jobs, and in 1998, 1999 and 2004, large businesses played the leading job-creation role.[51]

Small businesses in Alberta have been growing fast and adding jobs. In 2002, for example, paid employment with small businesses grew by 4.8 per cent in Alberta, as compared to 2.8 per cent for Canada.

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47 Human Resources and Employment . 2004 Annual Alberta Labour Market Review, 2005, p. 6.

48 Alberta Economic Development, Monthly Economic Review, July 2005. p. 1.

49 Human Resources and Employment. 2004 Annual Alberta Labour Market Review, 2005, p. 6.

50 Human Resources and Employment, Alberta Regional Occupation Outlook: 2005-2010 Provincial Summary Report, Sept. 2005, p. 6.

51 Industry Canada, 2005. Key Small Business Statistics 2005. p. 1.
Small business is defined as having 100 employees or less.

Industry Outlook

The contribution of the small business sectors is expected to remain varied by year or period. The continued growth of the service sector, where small businesses are dominant, suggest a continuing important role of small businesses in job creation.

Challenges and Issues

CFIB data indicates that Alberta-based small businesses are voicing more concerns over labour shortages than in other provinces. Concerns appear to be highest among CFIB members in the construction industry, where almost three-quarters of sector respondents to a survey reported workforce availability concerns. Sectors in which more than half of sector respondents voiced similar concerns included manufacturing, retail, agriculture, hospitality, transportation, communications and business services. The majority of respondents expected increased hiring difficulties, with lack of candidates with required skills/education being the number one reason for the difficulty.[52]

Small business responses to shortages of appropriately skilled workers include increased use of overtime, hiring under-qualified workers and training on the job, and redistributing work responsibilities among existing workers.

Tourism Sector

Current Situation

The Tourism sector provides evidence of increasing global links among economies. For example, the Alberta Tourism sector is:

- recovering from a decline in the wake of global and national events, including the terrorist attacks on the US, the SARS crisis, and the war in Iraq; and
- poised to benefit from being designated as an approved tourism destination by China, which allows travel to Canada on a tourist visa.

Tourism spending in Canada in 2004 was estimated at just below its peak set in the first quarter of 2001.[53] The recovery of the tourism sector was also evident in Alberta in 2004 as compared to 2003 with total tourism revenue expected to grow by seven per cent to $4.65 billion.[54]

Employment in the Accommodation and Food Services sector – which is often used as a proxy for the tourism industry – is estimated at 124,400 people[55] and is expected to grow by 2.6 per cent annually and create approximately 20,300 jobs between 2005 and 2010.[56]

Industry Outlook

Demographic changes are expected to have a significant impact on the tourism sector with the travel behaviour of retiring baby boomers providing an upward pressure on the industry. The industry is expected to remain vulnerable to shocks from the outside, be they high fuel prices, natural disasters, or geo-political events.

Challenges and Issues

Labour Shortages

Concerns are being expressed over possible labour shortages in the hospitality sector. For example, a CFIB survey conducted in 2002 found that 60 per cent of respondents in the hospitality service noted concerns over the shortage of qualified labour.[57]

Factors influencing the labour market in the tourism sector include:

- considerable lack of management and supervisory skills,
- the seasonal nature of the sector as a barrier to continuity of staffing,
- high turnover and need for continual training, and
- vulnerability of the sector to global influences (terrorism, pandemic influenza, etc.).

According to employment projections from Alberta Human Resources and Employment, occupations in travel and accommodation, as well as tour and recreational guides and casino operations, are expected to have above average growth between 2004 and 2009.[58] High turnover and retention issues of staff who are more often than not young and not necessarily committed to a career in the industry are expected to remain issues for the industry.

Aging Population

The changing demographics in many developed economies is expected to drive change in tourism. Aging baby boomers with more money to spend will likely take more trips, but may focus more on international travel rather than domestic.[59] The domestic tourism industry will need to focus on activities that are less physically challenging and more appealing to senior market segments of the population.[60]

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52 Canadian Federation of Independent Businesses, Alberta – Labour Pains: Results of CFIB Surveys on Labour Availability, 2003.

53 Statistics Canada, The Daily, National Tourism Indicators, March 29, 2005.

54 Alberta Economic Development 2005. Alberta Tourism Statistics, p. 1 www.alberta-canada.com/statpub/tourismStatistics

55 See, for example: Alberta Economic Development 2005. 2004 Alberta Tourism Market Monitor. Page 2

Human Resources and Employment. 2004 Annual Alberta Labour Market Review, 2005, page 6

56 Human Resources and Employment, Alberta Regional Occupation Outlook: 2005-2010. Sept. 2005, p. 6.

57 Canadian Federation of Independent Businesses, Alberta – Labour Pains: Results of CFIB Surveys on Labour Availability, 2003.

58 Human Resources and Employment, Alberta Regional Occupation Outlook: 2005-2010, Sept. 2004.

59 See for example: Alberta Economic Development ,Tourism Issues, August 5, 2005.

60 Conference Board of Canada. Key Trends for the Travel Industry, Summer 2005, p.4.

Transportation Sector

Current Situation

An estimated 35,450 people in Alberta are employed as truck drivers, and growth is expected to range between 1.4 per cent and 2.4 per cent in the 2006 to 2009 period, or between 500 and 850 additional jobs per year.[61]

The sector includes different elements with significantly different labour force requirements. Pipelines, for example, are the main mode of transportation of oil and gas products. Once built, these systems require few workers. Frontline workers in the pipeline industry work in a highly technical environment characterized by remote site monitoring, centralized system control, and underground inspection. Trucking is on the other end of the spectrum. It is relatively labour-intensive and, although often centrally dispatched, truck drivers operate autonomously.

Industry Outlook

Transportation and logistics services are an integral part of the Alberta economy and play an especially essential role in inter-regional and international trade. The Transportation sector is changing as the provincial economy moves towards more value-added products. Bulk commodities tend to be moved by pipeline and train; (semi) finished goods tend to be moved in containers and rely on road and train transportation.[62] Increasingly road and rail are interlinked in an intermodal system of transportation.

Recent trends include just-in-time manufacturing practices whereby goods and produced and shipped on demand to reduce warehousing needs.

Challenges and Issues

Industry sources indicate current shortages, as illustrated by recent media reports of Alberta firms having difficulty in finding truckers when the US border opened up again for live cattle shipments. Aging of the current labour force is a significant factor in the current and anticipated shortages.[63] Additional significant challenges include border delays when entering or leaving the United States and limits to driver hours to increase worker and public safety. The combination of driver shortages and reduced working hours poses a significant challenge for the industry.[64]

Summary

The main labour market issues discussed in this paper differently affect different sectors of the economy. For example:

- Sectors that are growing fast – such as construction and manufacturing – are more likely to experience shortages than lower growth sectors. However, the latter are often affected indirectly as workers are lured away by higher wages and the availability of jobs in the high growth sectors and areas.
- All sectors are subject to the aging of the workforce but some, and the ICT sector is an example, are less affected by what the baby boom generation does than others. Construction is facing a double challenge because it is both growing fast and has a relatively older work force.
- Virtually all work is changing as more technology is added to the workplace. This holds true in sectors as diverse as primary agricultural production and health care.

The development of labour force strategies and action plans, such as the overall Government of Alberta labour force development strategy and the action plan of Alberta Human Resources and Employment will need to be cognizant of and respond to these issues to be successful.

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61 Human Resources and Employment. OCC Info. Alberta Occupational Profiles - Truck Driver, 2003, p. 3.

62 Alberta Infrastructure and Transportation. 2004 Alberta Transportation and Trade Report, 2004, p. 1.

See for example, Global Insight 2005. The US Truck Driver Shortage: Analysis and Forecasts page 11; and David Bradley, CEO Canadian Trucking Alliance 2005. Speech at Alberta Motor Transportation Alliance Conference, Banff 2005.

63 Human Resources and Employment. Alberta Careers Update 2004, 2005, p. 36.